CHAPTER 3: FIRMWARE PROGRAM

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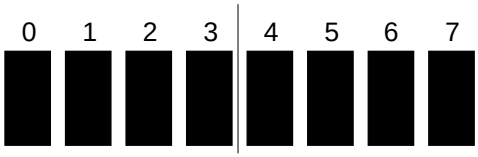
1. Firmware Program Version Check

The version number of the firmware program can be checked in two different ways, according to the difference of the version number itself, as given below.

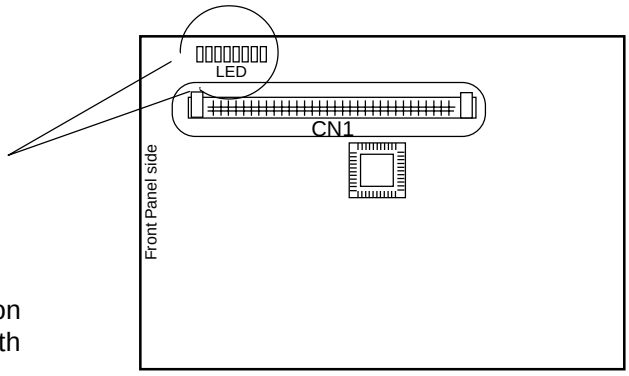
1) Check the version number by 7 LED's on the Main PCB

- **When the version number is "2.11" ;**

1) Turn off the power and remove the Upper body cover.
2) Check the illumination sequence of the green LEDs on the Main PCB when turning on the power.



< LED >



< Main PCB >

LED 0 to LED 3

Indicate the numeric value of the version number by the 4-digit binary system with LED 0 as the 1st digit.

LED 4 to LED 7

Indicate the digit place of the numeric value. LED 7 as 2nd digit below the decimal point.

[Ex. : LED illumination sequence when the version number is "2.11"]

Sequence	Version No.	LED0	LED1	LED2	LED3	LED4	LED5	LED6	LED7	Version Digit Place
1st	0	OFF	OFF	OFF	OFF	**ON**	OFF	OFF	OFF	2nd place over 0
2nd	2	OFF	**ON**	OFF	OFF	OFF	**ON**	OFF	OFF	1st place over 0
3rd	1	**ON**	OFF	OFF	OFF	OFF	OFF	**ON**	OFF	1st place below 0
4th	1	**ON**	OFF	OFF	OFF	OFF	OFF	OFF	**ON**	2nd place below 0

2) Check the version number by 3 LED's on the Front Panel

- **When the version number is "2.11" ;**

1) Turn on the power, pressing down the FUNCTION button on the front panel, and keep it pressed down untill all 3 LED's on the front panel start flashing.
2) Release the FUNCTION button. The indicators flashes three times and then indicate the version number through their illumination.
3) The first illumination combination of the indicators indicates the 1st over-zero digit of the version no.
4) Press the FUNCTION button again. Next, they indicate the 1st below-zero digit of the same version no.
5) When the FUNCTION button is pressed the third time, then, the 2nd below-zero digit of the number is indicated by them.
6) If the FUNCTION button is pressed once more at this stage, the version number can be checked again from the 1st over-zero digit, as described in the step 3 above.

NOTE : The version number is also available on a Test Print.

< Indicator Illumination for Digit Display>

Digit	ERROR	READY/DATA	PAGE STANDBY
0	OFF	OFF	OFF
1	OFF	OFF	**ON**
2	OFF	**ON**	OFF
3	OFF	**ON**	**ON**
4	**ON**	OFF	OFF
5	**ON**	OFF	**ON**
6	**ON**	**ON**	OFF
7	**ON**	**ON**	**ON**

2. Firmware Program Upgrading

The firmware program which controls the operation of the SC3500 is stored in the Flash memory on the Main PCB inside. This program can be upgraded by downloading a new (upgraded) one, which will be supplied on a floppy disk whwn required, from the personal computer.

1) Upgrading on Windows 3.1

(1) Confirm the SC3500 is securely connected to the personal computer which is to be used for program upgrading procedure.

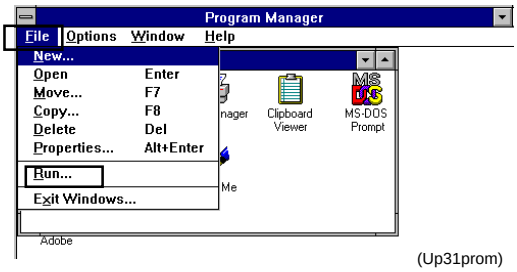
(2) Turn on the SC3500, pressing down the STOP button and the FUNCTION button on the front panel together, and keep them pressed down until all 3 indicators on the front panel are illuminated and then the ERROR indicator (orange) goes off among them.
Release the buttons.

(3) Turn on the personal computer and start Windows 3.1.

(4) Insert the floppy disk which contains an upgraded firmware program into the floppy disk drive on the personal computer.

NOTE : The utility software which downloads file data is also contained in this floppy disk.

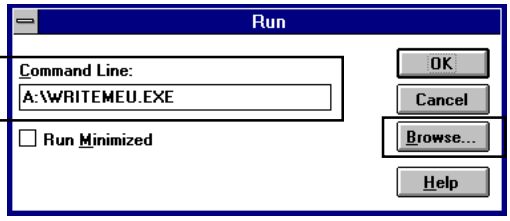
(5) Click on [File] in the menu bar in the "Program Manager" window and then on [Run...] in the [File] menu. The [Run] dialog box then appears.



(Up31prom)

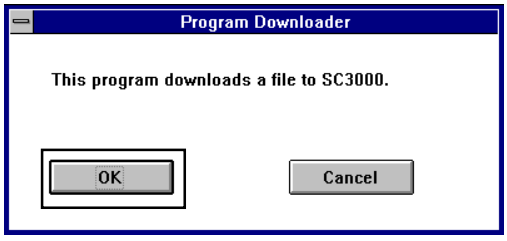
(6) Enter "a: \ writemeu.exe" into the [Command Line] box. (If the "C" drive is assigned as floppy disk drive, enter "c: \ writemeu.exe" into this box.)
The above-mentioned file name can be selected from the file name reference list which can be opened by clicking on the [Browse...] button in the [Run] dialog box.

(7) Confirm the entered file name is correct and click on the [OK] button.
The "downloader" program runs and then the [Program Downloader] dialog box appears.



(Up31run)

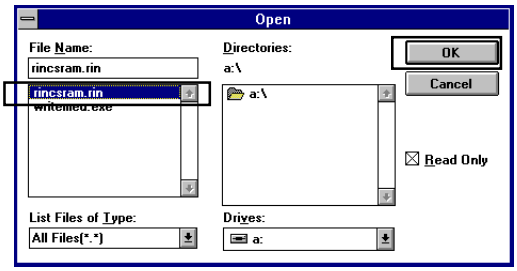
(8) Click on the [OK] button in this dialog box.
The [Open] dialog box then appears.



(Up31down)

(9) Select "rincsram.rin" from the file name list in this dialog box. In "rincsram.rin", the upgraded firmware program is contained.
(If this file name isn't displayed in the file name list, select "All Files (*.*)" from the [List Files of Type] box in this dialog box.)

(10) Confirm "rincsram.rin" is displayed in the [File Name] box and click on the [OK] button in this dialog box.
The [Editor] dialog box then appears.

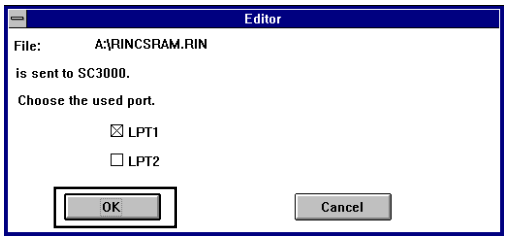


(Up31open)

(11) Select the port to which the SC3500 is connected, normally "LPT1", and click on the [OK] button in this dialog box.
The message box "Downloading" appears while the READY/DATA indicator (green) on the front panel of the SC3500 is flashing.

(12) When it is confirmed the firmware program has been downloaded successfully into the SC3500, the READY/DATA indiactor stop flashing and the PAGE STANDBY indicator starts flashing, while the [Mini Editor] dialog box appears, informing the program has been successfully downloaded.

(13) Click on the [OK] button in this dialog box.
Turn off the SC3500 and then remove the floppy disk from the floppy disk drive on the personal computer.



(Up31edit)

(Up31mied)

[NOTE]

- It is recommended that the version number of the installed firmware program be checked when it is upgraded.
- If the ERROR indicator (orange) is illuminated during the firmware program upgrading procedure, repeat the procedure from the beginning.

2. Upgrading on Windows 95

(1) Confirm the SC3500 is securely connected to the personal computer which is to be used for program upgrading procedure.

(2) Turn on the SC3500, pressing down the STOP button and the FUNCTION button on the front panel together, and keep them pressed down until all 3 indicators on the front panel are illuminated and then the ERROR indicator (orange) goes off among them.
Release the buttons.

(3) Turn on the personal computer and start Windows 95.

(4) Insert the floppy disk which contains an upgraded firmware program into the floppy disk drive on the personal computer.

NOTE : The utility software which downloads file data is also contained in this floppy disk.

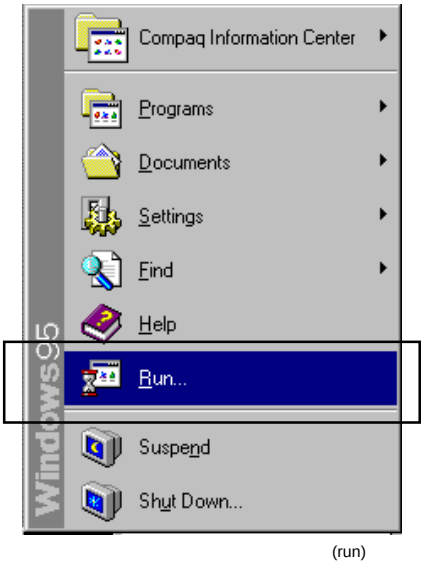
(5) Click on [Start] button in the Desk Top window and then on [Run...] in the menu. The [Run] dialog box then appears.

(6) Enter "A:\Writemeu.exe" into the box. (If the "C" drive is assigned as floppy disk drive, enter "C:\Writemeu.exe" into this box.)

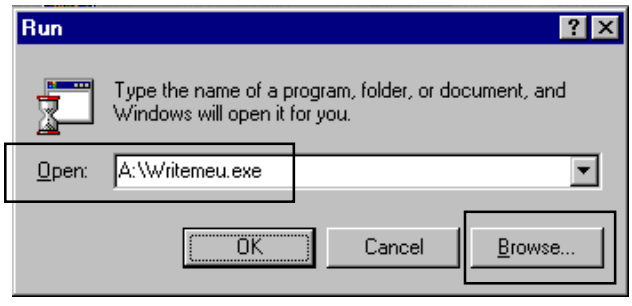
The above-mentioned file name can be selected from the file name reference list which can be opened by clicking on the [Browse...] button in the [Run] dialog box.

(7) Confirm the entered file name is correct and click on the [OK] button.

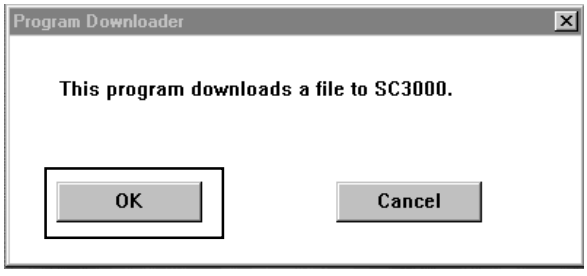
(8) Click on the [OK] button in the [Program Downloader] dialog box.
The [Open] dialog box then appears.



(run)



(rundial)



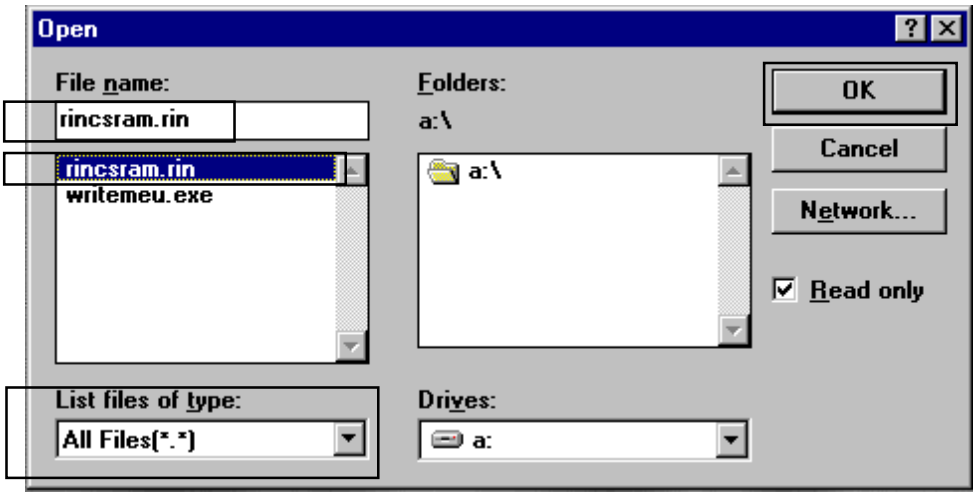
(programdown)

(9) Select "rincsram.rin" from the file name list in this dialog box. In "rincsram.rin", the upgraded firmware program is contained.

(If this file name isn't displayed in the file name list, select "All Files(*.*)" from the [List files of type] box in this dialog box.)

(10) Confirm "riscram.rin" is displayed in the [File name] box and click on the [OK] button in this dialog box.

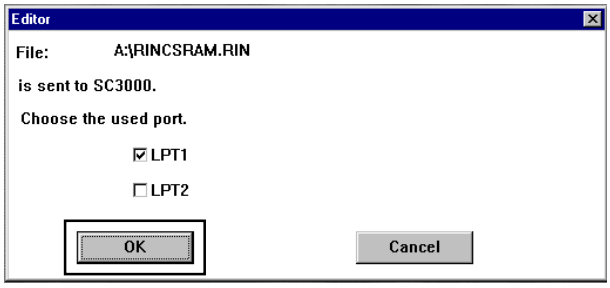
The [Editor] dialog box then appears.



(open)

(11) Select the port to which the SC3500 is connected, normally "LPT1", and click on the [OK] button in this dialog box.

The message box "Downloading" appears while the READY/DATA indicator (green) on the front panel of the SC3500 is flashing.



(Editor)

(Minieditor)

(12) When it is confirmed the firmware program has been downloaded successfully into the SC3500, the READY/DATA indiactor stop flashing and the PAGE STANDBY indicator starts flashing, while the [Mini Editor] dialog box appears, informing the program has been successfully downloaded.

(13) Click on the [OK] button in this dialog box. Turn off the SC3500 and then remove the floppy disk from the floppy disk drive on the personal computer.

[NOTE]

- It is recommended that the version number of the installed firmware program be checked when it is upgraded.
- If the ERROR indicator (orange) is illuminated during the firmware program upgrading procedure, repeat the procedure from the beginning.

3. Upgrading on MS-DOS

(1) Confirm the SC3500 is securely connected to the personal computer which is to be used for program upgrading procedure.

(2) Turn on the SC3500, pressing down the STOP button and the FUNCTION button on the front panel together, and keep them pressed down until all 3 indicators on the front panel are illuminated and then the ERROR indicator (orange) goes off among them.
Release the buttons.

(3) Turn on the personal computer.

(4) Insert the floppy disk which contains an upgraded firmware program into the floppy disk drive on the personal computer.
NOTE : The utility software which downloads file data is also contained in this floppy disk.

(5) Change the current directory to the root directory of the floppy disk drive.
Ex. If the root directory of the floppy disk drive is the "A" drive;
1. Enter "A:" and Press the Enter key.
2. Enter "CD \" and Press the Enter key.

(6) Enter "SC3KU" and press the Enter key.
The following message is then displayed.

```
<<<<<< SC3000 / Program Transmission >>>>>> [ Ver. 1.00 ]
File Name = RINCSRAM. RIN

        READY? ( [ 0 ] : START, 1 : JOB END ) =
```

In "RINCSRAM. RIN", the upgraded firmware program is contained.

(7) Enter "0" and press the Enter key.
The upgraded firmware program then starts to be downloaded, while the displayed value of "Byte Count" keeps increasing and the READY/DATA indicator on the front panel of the SC3500 is flashing.
To interrupt this downloading operation, enter "1" and press Enter key.

(8) When it is confirmed the firmware program has been downloaded successfully into the SC3500, the READY/DATA indiactor stops flashing and the PAGE STANDBY indicator starts flashing, while the message "Completed ..... hit RETURN/ENTER key!" appears at the bottom of the screen.
Press the Enter key. The following message then appears again.

```
<<<<<< SC3000 / Program Transmission >>>>>> [ Ver. 1.00 ]
File Name = RINCSRAM. RIN

        READY? ( [ 0 ] : START, 1 : JOB END ) =
```

(9) Enter "1" and press the Enter key.
Turn off the SC3500 and then remove the floppy disk from the floppy disk drive on the personal computer.

[NOTE]

- It is recommended that the version number of the installed firmware program be checked when it is upgraded.
- If the ERROR indicator (orange) is illuminated during the firmware program upgrading procedure, repeat the procedure from the beginning.